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Some Introductions <mark>(add a **suggestion for the main title** and your introduction)</mark>

Program disclosed (an attempt) / crack in the box

I was drawn to Flusser's *Towards a Philosophy of Photography* because I was searching for a theoretical background to support my practice, which has shifted from painting and drawing towards analogue photography. My first step into photography was through making photograms – I regard the darkroom a printmaking studio, and a photographic negative a matrix to be changed and combined. On the other hand, I built my own camera to better understand its mechanisms and customise it to a degree it can produce gestural pictures, which merge photographic and painterly principles. On this account, close reading and annotation on Flusser helped me disclose the system that defines the camera as a machine, and photography as an *apparatus.* However, the production of this annotated reader made my understanding of the two mediums – drawing and photography – change. I used to see them as two radically different and separate modes of expression and was interested in the area where they converge. But further research on the notions of image, technical image and photographic apparatus, made me realise, that drawing and photography are not that far from each other. I could even understand them as two ends of the same thread. *Towards a Philosophy of Photography* led me to the writings of Hans Belting and these, I feel, resonate with me much better, even though I cannot (yet) pin down why… [MP]

Dismantling the Black Box / ■

My interest in Flusser's *Towards a Philosophy of Photography* stems from a wish to understand why I take photographs and to better contextualise my own photographic practice. Photography is something that I do; I want to understand why I do it and what it means when I do. The act of photography is not a neutral act; as a friend recently said to me: "All art is political". I feel an obligation to interrogate and understand the implications of my choice to pick up a camera.

In this reader I've mainly lifted quotes I found interesting and/or relevant with a view that this reader will serve as a reference text for me in the future. I've also brought in quotes from more contemporary texts which either challenge or build upon Flusser's contribution to the canon of photography theory, namely *Nonhuman Photography* and *Light + Photomedia* by Joanna Zylinska and Jai McKenzie respectively.

This reader is the result of a collaboration between five people with overlapping but distinct artistic practices. Reading together leads to thinking together, which in turn leads to expanding, challenging and questioning one's own biases and tendencies. It has equipped me with new research methods and signals a shift in my own practice toward a more disciplined (and organised!) approach to reading, annotating and writing. [SM]

Those are our Styles. This line is the Normal/Synopsis format and there are as well:

Caption

Note/comment

General Quote

Flusser Quote

Extra > (Initials)[SM]

1. A few basic terms

1.1 The Image

Definition from Flusser's *Lexicon of Basic Concepts*:

Image = a significant surface on which the elements of the image act in a magic fashion towards one another (Flusser, 2000, p. 83)

(for magic, see section 1.3)

"Images are significant surfaces. Images signify - mainly - something 'out there' in space and time that they have to make comprehensible to us as abstractions (as reductions of the four dimensions of space and time to the two sur-face dimensions). This specific ability to abstract surfaces out of space and time and to project them back into space and time is what is known as 'imagination'. It is the pre-condition for the production and decoding of images. In other words: the ability to encode phenomena into two-dimensional symbols and to read these symbols." (Flusser, 2000, p. 8)

What is an image according to Flusser?

- "a significant surface" – two-dimensional condition
- reading off this significance = "scanning" (to reconstruct abstracted dimensions)
- image does not have a stable reading (significance), it is open to interpretation
- images are abstractions that make the world comprehensible for humans
- IMAGES = SCREENS: We fail to grasp the world as is, instead we encode it into images and project them back into the world (they are like screens between the reality and human beings)
- imagination = ability to encode nomena and read them [MP]

1.1.1 Images or Pictures?

Flusser claims *images* are significant *surfaces*, emphasising their two-dimensional condition. However, when we think about sculptures, three-dimensional objects and time-based works such as film, the term *image* seems to be inadequate. Indeed, as Hans Belting indicates, there is an important distinction between the words *image* and *picture.* He states that *images* should not be mistaken with their *medium.* But neither do they circulate in disembodied form,

existing by themselves, because (even in the case of memory and imagination), they colonise our bodies, a living medium. [MP]

Belting thus defines *image* as a ''mental construct'' which is constantly exchanged between us and the medium. He calls for the notion of *image* to be free from historical, medial and technical contexts and therefore proposes a different understanding of it. Thus, Flussers' use of the term *image* actually implies the *picture* because he is referring to its specific medialities such as photography (technical image) and painting (traditional image). [MP]

At this point, I find Belting's definition of *image* more accurate: image is a mentally constructed entity of what we see or perceive and is not interchangeable with the *picture,* nor can it be reduced to a *medium.* [MP]

I propose to speak of image and medium as two sides of the same coin […] The picture is the image with a medium. The latter, understood in this way, encompasses both ''form'' and ''matter''. (Belting, 2014, p. 10)

What in the realm of bodies and objects is their matter, in the world of pictures is their medium. As images by definition have no body, they need a medium in which they become embodied. (Belting, 2014, p. 13)

Belting explains the *medium* as a technology, artisanship or anything that gives visibility to the image. Medium is

… that which conveys or hosts an image, making it visible, turning it into a picture. (Belting, 2014, p. 18)

In other words, medium:

- Gives birth to an image
- Controls its appearance
- Makes it visible and physically present [MP]

Despite the difference in terminology, both Flusser and Belting find that images play a crucial vrole in human comprehension of the world. Both authors also agree that our reading of images does not only lie in image's structure, but is largely preconditioned by observer's intentions and knowledge. [MP]

An ''image'' is more than a product of perception. It is created as the result of personal or collective knowledge and intention. We live with images; we comprehend the world in images. (Belting, 2014, p. 9)

Whether pictures are moving or not, we need to animate pictorial technology of any kind with our imagination and our desires. (Belting, 2014, p. 29)

Flusser similarly explains the principle of so called ''scanning'':

If one wishes to […] reconstruct the abstracted dimensions [of an image], one has to allow one's gaze to wander over the surface feeling the way as one goes. This wandering over the surface of the image is called scanning. In so doing, one's gaze follows a complex path formed, on the one hand, by the structure of the image and, on the other, by observer's intentions. […] It follows that 'images' are not 'denotative' (unambiguous) complexes of symbols but 'connotative' (ambiguous) complexes of symbols: They provide space for interpretation. (Flusser, p. 8)

Images were used for/by humans to understand the world. But by this they stand in-between the humans and the world, obscuring instead of representing it. We first observe (scan) an object and then we create an image of it in our mind (to read, recognise and memorize it). Therefore, the image is not what is actually there in front of us, does not exist by itself, but it comes to being with the transformation of other images. An image is actually a palimpsest of heterogeneous spaces. [MP&FO]

Images are neither on the wall (or on the screen) nor in the head alone. They do not exist by themselves, but they happen; they take place whether they are moving images (where this is so obvious) or not. They happen via transmission and perception. (Belting, 2005, p. 304)

Medium (support) enables an image to become visible (so that we can perceive it). However, *image* should not be mistaken for *medium,* because it goes beyond the medium.

We even remember images from the specific mediality in which we first encountered them and remembering means first disembodying them from their original media and then reembodying them in our brain. (Belting, 2005, p. 305)

> With this analysis of terminology, the question arises when to use *image* and when *picture.* I would simplify it like this: When we mean mentally constructed entities (with unstable meaning, depending on our previous

experience, associations etc.), we say *images.* When we refer to the objects (can be digital), we talk about the *pictures.* It seems that Flusser uses the first, but actually refers to the latter, as he describes its specific mediality. This is illustrated in the division of traditional and technical images which he based on the type of *medium* that accommodates the image, for instance photography and painting. But I think we cannot really speak about the *image* as technical or traditional, because it is not tied to the *medium.* According to Belting, *picture* would be a more appropriate term to use in such context. [MP]

I attempt to consistently distinguish the two only in the following section about technical pictures, however, in the later chapters, the terms are not strictly divided. As our core research is based on Flusser, we tend to use the term *image* instead of *picture.* [MP]

The aim of this analysis was to raise awareness of the notion of *image,* rather than provide for a strict definition and stick to it. Thus, the reader may decide himself to consider this debate while reading our texts, or he can choose to ignore it and concentrate on other concepts. [MP]

1.2 The Technical Picture

1.2.1 Traditional and Technical Pictures (according to Flusser)

TRADITIONAL PICTURE	TECHNICAL PICTURE
traditional pictures are prehistoric (appear long before texts) MAGIC	post-historic (because it is produced by apparatus, which is a product of a scientific text, adapted into practice)
abstraction of first order, because they abstract from concrete world	= abstraction of 3rd order (concrete world > traditional image > text > technical image)
signify phenomena	Signify concepts (Flusser, 2000, p. 14)
symbolic character is obvious	**decoding of technical images** (see section 1.2.4)*

human being is between the image and its significance - the world[1]	machine/operator complex is between the picture and the world
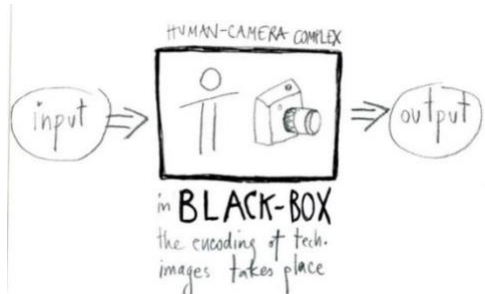
machine/operator complex is between the world and a picture

1.2.2 The Invention

"During this crisis of texts, technical images were invented: in order to make texts comprehensible again, to put them under a magic spell — to overcome the crisis of history." (Flusser, 2000, p. 13)

In the historical progression, texts were used, by "conceptual thinking'', to explain the world that was earlier represented in images. But the growing complexity and dominance of written language resulted in a crisis of text in the 19th century. Flusser argues that technical pictures were invented at the time to illustrate the texts and make them comprehensible again (photographs, prints and microscopic pictures for instance explained abstract scientific texts). Thus, they are abstractions of third order. In his time, Flusser even recognised that the imaginative and conceptual in texts and images are inverted. MP&FO

"Nowadays, the greatest conceptual abstraction is to be found in conceptual images (in **computer images**, for example); the greatest imagination is to be found in scientific texts." (Flusser, 2000, p. 12)

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[1] true for (mainly) realistic pictures (paintings, prints, drawings etc.) but what about pictures of pure expression (abstract expressionism, colour field painting etc.)

1.2.3 Characteristics

Technical image: a technological or mechanical image created by apparatus (Flusser, Lexicon of basic concepts, p. 85)

I wish to include some of my drawing camera pictures (here?)

Photographic pictures tend to be understood as technical images. They are created by apparatuses, which are constructed through applied scientific texts. Technical pictures are based on the accumulation of information from the texts, unlike the traditional pictures, which precede the historical era of literacy. (Flusser, 2000, p. 8-20) [FO&MP]

"Ontologically, traditional images are abstractions of the first order insofar as they abstract from the concrete world while technical images are abstractions of the third order: They abstract from texts which abstract from traditional images which themselves abstract from the concrete world." (Flusser, 2000, p. 14)

The technical picture carries its significance on its surface and it seems that precise decoding of it is unnecessary. The photograph, for instance, appears to be a direct result of sunlight hitting the photosensitive material, producing a picture. If sunlight is a direct cause and the photograph a consequence, the latter seems to be a symptom of reality. It reminds me of **indexicality**, just as for instance the finger is the cause and the fingerprint the consequence. Just as the fingerprint has indexical origins - it is directly related to its creator - the photograph appears to be on the same level of reality as its significance, it is a window to reality.

But - so it seems.

Flusser emphasises that this objectivity of technical pictures is an illusion, because they are, like all pictures, symbolic and even more abstract complexes thank traditional pictures. As explained above, they represent texts and not reality itself and Flusser observes that they even displace them. [MP]

We can therefore say, that technical pictures:

- are not *windows* but *pictures*
- translate everything into states of things
- have magical effect like all images
- make us act as their function (they shape our knowledge, experience, behaviour)*

1.2.4 Decoding

In works like paintings, drawings and statues, symbolic character is obvious, as in traditional image making human intervention is evident and leads us to decipher the thinking process of its creator in order to grasp the meaning. Counter to traditional pictures, we assign quasi-objective, non-symbolic character to technical pictures and their decoding first seems unnecessary. Flusser warns that we lack critical reading of technical pictures and therefore suggests we should thoroughly decode them, just as we approach traditional pictures.
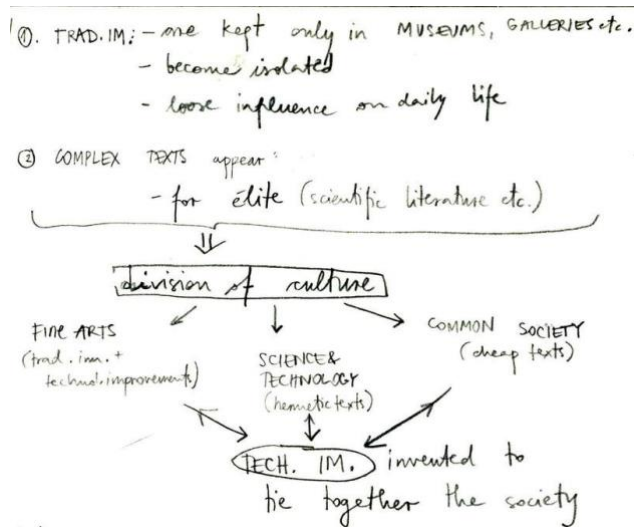
We endow them [pictures] with personal meaning, pass them through the filter of what might be termed our own personal censorship. As perceived pictures they turn into remembered images that henceforth become part of the archive of our memory. When external pictures are re-embodied as our own images, we substitute for their fabricated medium our own body, which, when it serves in this capacity, turns into a living or natural medium. (Belting, 2014, p. 16)

In terms of decoding images, Belting speaks about image perception in general. He claims it is a form of animation, because the spectator animates the medium as if images were living things. Image perception is a symbolic act, guided by medium's technologies on the one side and cultural patterns on the other. Furthermore, he describes how we perceive and internalise pictures. [MP]

~~*The image always has a mental quality, the medium always a material one, even if they both form a single entity in our perception. The presence of the image, however, entails a deception, for the image is not present the same way its medium is present. It needs the act of animation by which our imagination draws it from its medium. (Belting, 2014, p. 20)*~~

In our digital age, images have lost their physical connection to a carrier medium, such as a photographic print. They are instead stored in the electronic dataset of the computer's **''black box''**. *[…] Their mediality has become discontinuous; […] Photography was once a 'representational medium by means of which all other media could be subsumed and analyzed'. Today, this role has passed to the computer, which generates images with digital codes and processes them through input. (Belting, 2014, p. 25)*

1.2.5 Importance and function

① TRAD. IM: — one kept only in MUSEUMS, GALLERIES etc.
— become isolated
— loose influence on daily life

② COMPLEX TEXTS appear:
— for élite (scientific literature etc.)

↓

division of culture

FINE ARTS (trad. im. + technical improvements) ← ↓ → COMMON SOCIETY (cheap texts)

SCIENCE & TECHNOLOGY (hermetic texts)

TECH. IM. invented to tie together the society

Flusser recognises importance of technical pictures in their magic, which liberates receivers from conceptual thinking (because technical pictures explain conceptual texts). Thus they serve as a universal code, making texts comprehensible. Technical pictures introduced images back into everyday life and Flusser regards them as a common denominator for art, science, politics.

"The invention of the photograph is a historical event as equally decisive as the invention of writing." (Flusser, 2000, p. 18)

Flusser finds photography a quantum leap in the evolution of humanity. Belting, on the other hand, offers a different viewpoint on technology and development of the media. As a contemporary theorist, his view on technology is different than Flusser's. He does not only distinguish traditional images from technical ones, but introduces the notion of digital image. Photograph (as a technical image for Flusser), for Belting already falls into an outmoded category. Flusser's perspective is that photography (as a modern technology of his time) radically breaks with the tradition of image-making because of the involvement of apparatus which produces the image (dichotomy between technical and traditional image). Belting, however, observes that every technology is tied into a tradition of technical developments. He understands technology in a broader sense, as the knowledge of material and methods used for creating. He claims that photography, just as any other technology (be it painting, sculpture or highly advanced computer technology) emerged from this evolving tradition. [MP]

Digital image is not an isolated phenomenon. It has roots in earlier developments. It has, in fact, staked a claim on the territories of photography, film, television, and video, so that it in fact epitomizes (and includes) the previous history of pictorial media. (Belting, 2014, p. 27)

*Visual technologies are often discussed – for example, in the writings of **Villem Flusser** – as though they marked so radical a departure from earlier tradition as to put an end to the previous history of images. […] but this antithesis in fact has a long history. […] Once we abandon our current notion of what technology is, we have to admit that there is a long tradition of technological advances in the making of images. Photography emerged from this tradition, and its technological innovations opened a new territory. Today's new technologies, digital simulation and animation, further expand the frontiers of our ability to visually analyze our world. (Belting, 2014, p. 27)*

In the context of technical pictures' position in society, Flusser explains how they produce mass culture. As technical images are abstractions of third order, they do not comprise the same magic as traditional ones, but encompass the programmed magic. Ideology and magic from texts are translated into a programmed magic of technical pictures. These cannot "reduce culture to the lowest common denominator" as they were meant to do, but "grind it up" in mass culture. [FO&MP]
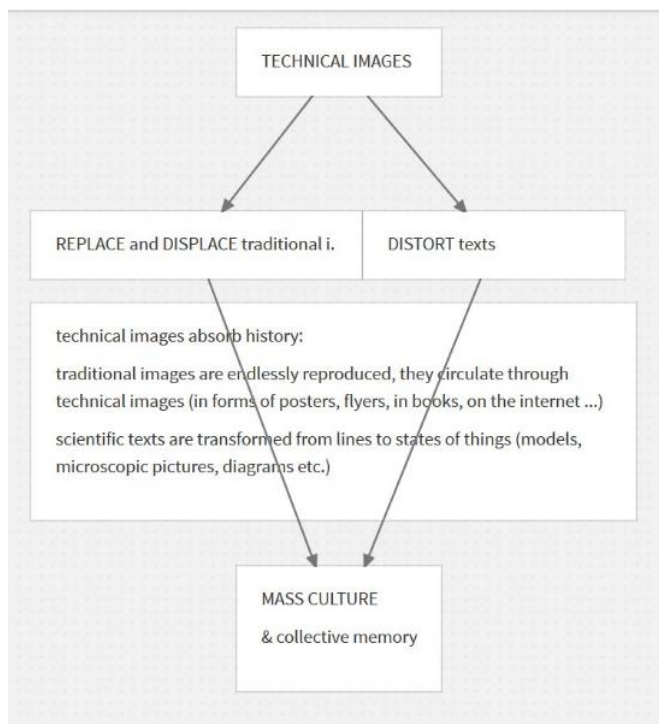
1.3 Magic

Magic= a form of existence corresponding to the eternal recurrence of the same (Flusser, 2000, p. 83)

"This space and time peculiar to the image is none other than the world of magic, a world in which everything is repeated and in which everything participates in a significant context. Such a world is structurally different from that of the linear world of history in which nothing is repeated and in which everything has causes and will have consequences. For example: In the historical world, sunrise is the cause of the cock's crowing; in the magical one, sunrise signifies crowing and crowing signifies sunrise. The significance of images is magical." (Flusser, 2000, p. 9)

> According to Flusser's definition, we see that magic comes from repetition or ritual. We are conditioned to associate one element with another. e.g. every day the rooster's crow precedes the sun rising. This repetition creates an inseparable link in our minds, even though the sun would rise just the same in the absence of the rooster's crow.[SM]

1.3.1 In relation to technical images

"...they are not windows but images, i.e. surfaces that translate everything into states of things; like all images, they have a magical effect; and they entice those receiving them to project this undecoded magic onto the world out there. The magical fascination of technical images can be observed all over the place: The way in which they put a magic spell on life, the way in which we experience, know, evaluate and act as a function of these images...." (Flusser, 2000, p. 16)

"Obviously it can hardly be the same magic as that of traditional images: The fascination that flows out of the television or cinema screen is a different fascination from the sort that we observe in cave paintings or the frescoes of Etruscan tombs. Television and cinema are on a different level of existence from caves and the Etruscans. The ancient magic is prehistoric, it is older than historical consciousness; the new magic is 'post-historic', it follows on after historical consciousness. The new enchantment is not designed to alter the world out there but our concepts in relation to the world. It is magic of the second order: conjuring tricks with abstractions.

The difference between ancient and modern magic can be stated as follows: Prehistoric magic is a ritualization of models knows as 'myths'; current magic is a ritualization of models know as 'programs'. Myths are models that communicated orally and whose author—a god— is beyond the communication process. Programs, on the other hand, are models that are communicated in writing and whose authors—'functionaries'—are within the communication process". (Flusser, 2000, p. 17)

> The Great Divide between orality (oral traditions) and literacy (written traditions) is a defining factor here; history is a product of literacy, magic is a product of orality e.g. storytelling, myths [SM]
>
> History is linear, magic is circular—The magical world (the world as we perceive it? vs the literal world (the world as it is). [SM]
>
> Is the magical world "the way we perceive it" or "the way we imagine it" ?? or is it the same thing. [CA]

1.4 The Photograph

"...definition of a photograph: It is an image created and distributed by photographic apparatus according to a program, an image whose ostensible function is to inform. Each one of the basic concepts thus contains within it further concepts.
Image contains within it magic; apparatus contains within it automation and play; program contains within it chance and necessity; information contains within it the symbolic and the improbable. This results in a broader definition of a photograph: It is an image created and distributed automatically by programmed apparatuses in the course of a game necessarily based on chance, an image of a magic state of things whose symbols inform its receivers how to act in an improbable fashion." ((Flusser, 2000, p. 76)

1.4.1 Another perspective: Hans Belting

Flusser regards images as mediators between us and the world, but he assigns a special status to technical images and thus photography. He claims that we do not decode them, but instead blindly believe they represent reality, making it turn into a hallucination.

Belting, on the other hand, challenges this division between traditional and technical image. Instead, he wishes to discuss the relation between photographs and the perceiver.

"I want to relate photographs to the beholder and to life experiences and concerns that he expresses in images, in his own images, even when it is through photography that they are expressed." (Belting, 2014, p. 145)

"Flusser insisted on a rigid distinction between the old image and the technical image, but his distinction is in fact only meaningful when we see that it in fact distinguishes between image and medium. /.../ His aim is to promote the freedom of the image against the tyranny of the photographic medium, 'freedom to play against the apparatus'. [...] My intention in what follows is to retrace the interplay of image and medium in photography against a larger horizon of the image." (Belting, 2014, p. 146)

Belting distinguishes two different notions of the photographic image.

1. objet trouvé (a replica of the world, found by the camera)

2. product of a camera ("an expression of a medium that created it" p. 144)

"Like images in other media, photographs, too, symbolize our perception of the world and our remembrance of the world." (Belting, 2014, p. 145)

Belting explains that the photograph used to be understood as *icona vera* - a true image of external reality captured by a camera. Taking photographs was a way of possessing the world. However, photographs never capture the world – Belting claims, that instead they synchronise our gaze with it. Through photographs, one can analyse how our view of the world changed through time.

"It is not the world out there that is real, but the photograph, in which we internalize it" (Belting, 2014, p. 146)

A photograph is a proof of (past) existence or event. But Belting observes, that

"on the photographic plate, [...] events are torn away from the flow of life and 'fixed' in an image that is like a left-over from past reality." (Belting, 2014, p. 146).

He states that photographs have one of the two main functions for the producer or spectator: the picture is taken either because someone wishes to preserve a pleasing image from the world or, contrary, to analyse the world through images.

"Photographic images, too, remain mute remains of our transitory gaze. We animate them only when they bring back our own memories." (Belting, 2014, p. 148)

"The photograph functions for us not so much as a document but as a reminder of our nearly lost sense that the world possesses hermetic meaning. […] Photography itself becomes a form of remembrance. It recalls painting or theatre – or indeed its own past, when it was still the dernier cri *of pictorial media." (Belting, 2014, p. 151)*

Belting emphasises the notion of intermediality, undermining Flusser's division of technical and traditional images. He claims that images (as well as perception itself) are inherently intermedial. To show an example from photography, he analyses still-life pictures from André Kertész. The motives drew from classical easel paintings, demanding a gaze that is trained in painting. Belting observes that the photograph "New York City, February 25, 1951", revealed the intermediality of any photograph. Background part of the composition is occupied by a fragment of an old landscape painting, while in front of it, Kertész placed the bowl of apples. With these two elements he created a time gap, but simultaneously caused that they are seen at the same time and in the same space.

"New York City, February 25, 1951

"De facto we are looking at nothing but a photograph, and yet several pictorial media enter our gaze, among which painting […] is only invoked as a view of itself, a picture of *a picture and* in *a picture. We only use photography to recognise yet another medium in its mirror. The image that arises in the beholder transcends medial boundaries and is made up of a synthesis of perceived image and remembered image." (Belting, 2014, p. 151)*

> Belting regards a photograph as a sediment of overlapping media which make us recall other images – our own memories. Due to this particular personal intermediality we become conscious of our own gaze.

1.4.2 On Photomedia: Toward a broader definition of Photography

Photography literally means "light writing" *photo*=light *graphy*=writing[SM]

"Photography as an embalmer and carrier of imprints testifies to the continued existence of solar energy and to its photosynthesis-enabling capabilities." (Zylinska, 2017, p. 127)

> Other authors to look toward include Jean Baudrillard & Paul Virilio. (insert footnotes from book)[SM]
>
> Photomedia as light-space-time structures.[SM]

Etymologically, the notion of photomedia-tions brings together the hybrid ontology of "photomedia" and the fluid dynamism of "mediation." Allowing us to sidestep the technicist distinction between analog and digital photography, as well as—more radically perhaps— that between still and moving images, the concept of photomedia foregrounds instead what is common to various kinds of light-based practices under discussion. As Jai McKenzie argues [below]..."(Zylinska, 2017, p. 191)

"I propose that the history and future of photomedia are fundamentally connected to light. I argue that, regardless of technological change, light is a constant defining characteristic of photomedia intrinsically coupled with space and time to form explicit light-based structures and experiences." (McKenzie, 2014, p.1)

"The photographic devices that fall under the term photomedia are as broad as the etymological scope of the words photographic and media. Essentially I consider all devices that use light and media as photomedia including photography, cinema, video, television, mobile phones, computers and photocopiers" (McKenzie, ibid.)

This definition of photomedia, whereby it encompasses any media dealing with light, is freeing... it provides a realistic alternative to "post-photography" which implies a death of photography. Photomedia allows photography to exist within, yet evolve to include, camera and lens-less media. It also renders the division between digital and analogue processes redundant. [SM]

Since reading *Nonhuman Photography* I keep coming back to the link between fossilisation and photography, as well as the image of permanent photograms created by the blast of Hiroshima. Geology and photography are linked as different forms of temporal expression. Zylinska discusses the writings of William Jerome Harrison at some length. Harrison was a British geologist, writer and photographer who lived from 1845-1908 and wrote a number of books on photography. [SM]

"In making the connection between photography and fossilisation, and thus extinction, Harrison not only pinpoints the nonhuman element of the photographic inscription, but also seems to intimate that photography has always been there, in cosmic deep time. It "just" needed to be discovered and then fixed for a little longer — rather than invented. If photography and fossilisation are both practices of "the impression of softer organisms onto harder geological forms," then photography is not a new process but, instead, a "modern, mediated extension" of the ancient-long "impressioning" activity enabled by light, soil, and

various minerals. The human element comes into the picture, literally, as the "apprentice to impressions enabled but the technical-material apparatus of the camera, plate, chemicals and light." As Bill Anthes points out, this process of nonhuman impressioning by light was also "demonstrated, with gruesome effect, by the shadows of a passersby etched permanently into granite buildings near the hypocenter of the blast[…]of Hiroshima[…];the blast of light imprinted permanent photograms of passersby onto buildings and pavements." (Zylinska, 2017, p.111)

"Harrison characterises the protagonists of the art form as apprentices of impressions. According to his assessment, 'impressioning' is a process as ancient as tanning of human skin under the sun, or the bleaching of wax under the sun. In each case, the sun created an impression on the body. For Harrison, this was the earliest and most basic form of photography." (Zylinska, 2017, p.110)

2. The Apparatus

2.1 The Derivation of the Apparatus

The chapter The Apparatus tries to explain the object as one that produces Technical images.

It is important to say that Flusser understands the camera as a prototype of the apparatuses 'that have become so decisive for the present and the immediate future' (Flusser, 2000, p. 21). ~~The Latin word apparatus is derived from the verb apparare meaning 'to prepare'. In this sense an apparatus is a thing that is in a state of idling. The photographic apparatus for example is waiting – or being ready for photography.~~

But etymology alone is not sufficient to describe the term. Ontologically apparatuses can be defined as being '[…] pro-duced (brought forward) out of the available natural world.' (Flusser, 2000, p. 22). All those things can then be referred to as culture, with apparatuses being part of them. But then the question arises, whether they are good for consumption (consumer goods) or good for producing consumer goods (tools). Both having in common, that they are "good" for something: being valuable and produced intentionally. With the camera being a tool, which's intention is to produce photographs, can a photograph be seen as a consumer item? ~~Usually tools "tear objects from the natural world to bring it to the place (produce them) where the human being is." (Flusser, 2000, p. 23) This process, of imprinting a new, intentional form onto them, Flusser calls "informing". With this new, unnatural form it becomes cultural. But the author makes a difference between two kinds of objects (that~~

~~become "a work" with the previous mentioned process): works, that are hardly been informed – such as apples – and works that are strongly informed – like shoes for example.~~

~~Flusser goes on with explaining that tools became machines with the Industrial Revolution happening.~~

After all, the author argues that a verbalisation of things based on industry may no longer be competent to deal with apparatuses and misses what they are about. Flusser states that apparatuses do not tear objects from the natural world and inform them, but instead change the meaning of the world. He claims that their intention is symbolic.

According to him, photographers lose themselves in the camera in search of possibilities, but nevertheless control the box. They create, process and store symbols. Flusser states, that 'Photographers do not work in the industrial sense, and there is no point in trying to call them workers or proletarians.' (Flusser, 2000, p. 25). He thinks they are in search of information.

> But I strongly disagree. This may have been the case in the uprising of photographers. But on nowadays standards photographers working in the commercial field definitely have reached the status of workers or proletarians. They are struggling with the same issues that industrial workers had and still have to cope.[AD]

2.2 Thinking: Apparatuses vs. Humans

At the end of the chapter Flusser evaluates the relation of Human thinking vs the thinking of an Apparatus. More precisely, he argues that Apparatuses would be able to carry out the type of thinking in the sense of a combinatory game better than human beings. But what exactly does he mean by that?

First, the type of thinking that Flusser means must be clarified. He strongly connects this to the term of power:

1.) "It is not those who own the hard object who have something of value at their disposal but those who control its soft program."

2.) "Power has moved from the owner of objects to the programmer and the operator. The game of using symbols has become a power game – a hierarchical power game."

3.) "Photographers have power over those who look at their photographs, they program their actions; and the camera has power over the photographers, it programs their acts. This shift of

power from the material to the symbolic is what characterizes what we call the 'information society' and 'post-industrial imperialism'." (p. 30)

But it is important to be aware of the full potential of an apparatus. This is where the author gets closer to the idea of an autonomous functionality – the ability to function without the help of a human:

"These reflections make it possible to attempt the following definition of the term 'apparatus': It is a complex plaything, so complex that those playing with it are not able to get to the bottom of it; its game consists of combinations of the symbols contained within its program; at the same time this program was installed by a metaprogram and the game results in further programs; whereas fully automated apparatuses can do without human intervention, many apparatuses require the human being as a player and a functionary." (p. 31)

Flusser elaborates his idea of the thinking of an apparatus further and even introduces the term of artificial intelligence:

"Thinking expressed in numbers. All apparatuses (not just computers) are calculating machines and in this sense 'artificial intelligences', the camera included, even if their inventors were not able to account for this. In all apparatuses (including the camera), **thinking in numbers overrides linear, historical thinking." (p. 31)**

INSERT SCANS FROM ILFORD BOOK and OTHER BOOKS (AS A BOOKLET?)
Title: The Program Laid Bare.

> One need only look at *how-to* books published in the early days of photography to become well-acquainted with the camera as *apparatus*. A knowledge of the craft (mechanical, optical, technical and chemical processes) was necessary in the early days of photography; you really needed to know what you were doing when you picked up a camera. Today you just take a picture; the program of the apparatus is more hidden than ever. SM
>
> Fanastic resource for old publications:
> http://www.digitalbookindex.org/subject_search/search010artphotographya/2

2.3 The Photographer

2.3.1 What do photographers do?

"They create, process and store symbols." (p.25)

"Photographers endeavour to exhaust the photographic program by realizing all their possibilities." (p.26)

2.3.2 What are photographers trying to do?

"Basically photographers wish to produce states of things that have never existed before." (p.37)

"We ignore everything familiar in our environment and only notice what has changed. Change is informative, the familiar redundant... It is precisely this permanently changing situation that we have become accustomed to: One redundant photograph displaces another redundant photograph. As such, the changing situation is familiar, redundant; 'progress' has become uninformative, run-of-the-mill. What would be informative, exceptional, exciting for us would be a standstill situation: to find the same newspapers on our breakfast tables every day or to see the same posters on city walls for months on end. That would surprise and shock us. Photographs permanently displacing one another according to a program are redundant precisely because they are always 'new', precisely because they automatically exhaust the possibilities of the photographic program. This is therefore also the challenge for the photographer: to oppose the flood of redundancy with informative images." (p.65)

2.3.3 The "Amateur" or Consumer/Prosumer Photographer

Photography Junkies or Slaves to the Program of the Apparatus

"Amateur photographers' clubs are places where one gets high on the structural complexities of cameras, where one goes on a photograph-trip - post-industrial opium dens. Cameras demand that their owners (the ones who are hooked on them) keep on taking snaps, that they produce more and more redundant images. This photo-mania involving the eternal recurrence of the same (or of something very similar) leads eventually to the point where people taking snaps feel they have gone blind: Drug dependency takes over. People taking snaps can now

only see the world through the camera and in photographic categories. They are not 'in charge of taking photographs, they are consumed by the greed of their camera, they have become an extension to the button of their camera. Their actions are automatic camera functions. A permanent flow of unconsciously created images is the result." (p.58)

"Almost everyone today has a camera and takes snaps. Just as almost everyone has learned to write and produce texts.
Anyone who is able to write can also read. But anyone who can take snaps does not necessarily have to be able to decode photographs. For us to see why the amateur photographer can be a photographic illiterate, the democratization of the taking of photographs has to be considered — and at the same time, a number of aspects of democracy in general have to be addressed.
Cameras are purchased by people who were programmed into this purchase by the apparatus of advertising." (p.57)

"Everyone thinks there is no need to decode photographs, since they know how photographs are made and what they mean." (p.59)

> Flusser paints a fairly bleak picture of people that work with the confines of the apparatus' program; however, can't the camera (the apparatus) simply be considered a tool, albeit a complex one? All tools offer constraints and their own program... a screwdriver has a program, any musical instrument has a program, a cooking stove has a program, a paintbrush for that matter has a program. That being the case I wonder if there is anything particularly unique about photography's apparatus and program.
> However, I see that Flusser on Page 23 defines machines as technical tools, not simply tools—they are no longer an extension of human "organs". I think Flusser's philosophy is helpful to a point; however, after reading Flusser one is inclined to never take a photograph again lest they be a "slave" to the apparatus' program. Essentially, I think it's good to read Flusser, then put the book down and simply get on with taking photos...better informed yet undeterred. [SM]

Joanna Zylinska in Nonhuman Photography on the tech geeks of *dpreview* website:—

"The capacity to overconsume is a minority privilege that masks not only the conditions of production—but also the ecological consequences of an economy driven by the logic of growth at all costs." (Zylinska, 2017, p. 132)

Keywords brought to mind: capitalism, industry, planned obsolescence, techno-fetishism, middle-aged white men[SM]

2.4 The Program

We are living in the photographic universe, rather unconsciously. We have adapted to images, have grown numb, even though we are constantly being exposed to new ones, lightning fast, we are not getting any information from the them, as they are redundant images. These images, produced daily in gigantic amounts, serve the program of the camera apparatus, as they are distributed out to world, and they produce a feedback for the program to continue. The apparatus is a successful one once the human intervention is reduced to minimum, solely to functional decisions. Thus only way to work against it, is to make "experimental images" by human intervention to the camera apparatus, and therefore trying to create images that are not included in the camera's program. This is not a definite solution (it is questionable if there is such a thing as solution), but the struggle between the apparatus and the human intervention itself is the best we can do, to express freedom.

Program: a combination game with clear and distinct elements

Universe: 1. the totality of combinations of a code; 2. the

totality of significations of a code.

We are living in the photographic universe, rather unconsciously. We have adapted to images, have grown numb, even though we are constantly being exposed to new ones, lightning fast, we are not getting any information from the them, as they are redundant images. These images, produced daily in gigantic amounts, serve the program of the camera apparatus, as they are distributed out to world, and they produce a feedback for the program to continue. The apparatus is a successful one once the human intervention is reduced to minimum, solely to functional decisions. Thus only way to work against it, is to make "experimental images" by human intervention to the camera apparatus, and therefore trying to create images that are not included in the camera's program. This is not a definite

solution (it is questionable if there is such a thing as solution), but the struggle between the apparatus and the human intervention itself is the best we can do, to express freedom.

2.4.1 Grainy Universe / All Points Assigned

"…apparatuses are simulations of thought, playthings that play at 'thinking', and they simulate human thought processes." P.67

"In the world of apparatus, all 'waves' are made up of grains, and all 'processes' are made up of punctuated situations." p67

> In the Cartesian model, 'thought' consists of concepts that are situated in the material world, however every point in the material (extended) world cannot be assigned with a concept, therefore resulting in a failure of omnipotence and omniscience.

"…because the structure of thought is not adequate to deal with the structure of extended matter." P67

> (note to self: this is the reason why one can't imagine everything)

"Apparatuses, meanwhile, these simulations of Cartesian thought, have succeeded. They are omniscient and omnipotent in their universes...To every photograph there corresponds a clear and distinct element in the camera program. Every photograph thereby corresponds to a specific combination of elements in programs." p68

> Our universe (the human universe, reality, life, however you'd like to name it) has endless number concepts, another way of putting it would be to say that all the points of thought cannot be assigned to all the points of

concepts. However with cameras, this is not the case as the program of the camera consists of all the realizable possibilities. The omnipotence and omniscience of the apparatus in the photographic universe results in a 'reversal of the vectors of significance' which means that the points in the universe of the camera start to signify the points in the camera's program. So every photograph is representing a possibility in the program.

"In the case of cameras, we are therefore dealing with an absurd omniscience and an absurd omnipotence: Cameras know everything and are able to do everything in a universe that was programmed in advance for this knowledge and ability." p68

2.4.2 Roll of Dice

Flusser defines the program as a probability game, in which there is a chance for every photograph to be realized. When there is the probability of realization of a certain point/photograph/situation, this means that it has to happen at some point nevertheless, because it exists in the program already.

"…photographic universe is in a permanent state of flux and within it one photograph permanently displaces another. Every given situation in the photographic universe corresponds to a 'throw' in the combination game, i.e. point for point, photograph for photograph. But these are totally redundant photos. The informative photographs of photographers consciously playing against the program signify breakthroughs in the photographic universe - and are not predicted within the program." p69

Even though Flusser mentions the distinction between the informative photographs and the redundant photographs, he does not give a concrete example to an informative photograph, or a certain experimental photographer that is succeeding at creating these informative photos.

2.4.3 Automaticity

"The photographic universe is a means of programming society - with absolute necessity but in each individual case by chance (i.e. automatically) - to act as a magic feedback mechanism for the benefit of a combination game, and of the automatic reprogramming of society into dice, into pieces in the game, into functionaries." P70

"This type of existence, then, in which everything experienced, known and evaluated can be reduced to punctuated elements (into 'bits'), is already familiar: It is the world of robots. The photographic universe and all apparatus-based universes robotize the human being and society." P70

> It is known not only from this text but also from other texts and statements of Flusser that he is deeply concerned of the automatic functionality of apparatuses and the decrease in human agency. This relates to automaticity, human intention becoming less and less effective and the programmed realities of the apparatus become the reality of the user. Eventually, the humankind is less and less effective, leading to a state of atrophy.

"...Apparatuses were invented in order to function automatically, in other words independently of future human involvement. This is the intention with which they were created: that the human being would be ruled out. And this intention has been successful without a doubt. While the human being is being more and more sidelined, the programs of apparatuses, these rigid combination games, are increasingly rich in elements: they make combinations more and more quickly and are going beyond the ability of the human being to see what they are up to and to control them. **Anyone who is involved with apparatuses is involved with black boxes where one is unable to see what they are up to...**" (p73)

> Roberto Simanowski is a German scholar deeply involved with the information society, mass culture and digital media. In his book "Waste" he takes at hand many contemporary subjects, he is also mentioning his concerns about the automaticity, and the decrease in human involvement. This is how the apparatuses turn into a black box.

"It is this knowledge gap that is the source of the problem. As we give more and more data to algorithms, we ourselves process less and less of it. The more our speaking, naming, and describing are supplanted by automatic registration and audiovisual copying, the less we ourselves are forced to reflect on and come to terms with the world and our role in it."
(Simanowski, 2018) p106

2.4.4 Transparency

"...apparatuses have come under the control of a number of individual human beings (e.g. capitalists), who have reversed this original intention. Now apparatuses serve the interests of these people; consequently what needs to be done is to unmask the interests behind the apparatuses..." (p72)

> The creators of informative photographs are in the search of breaking the programmed universe of photograph. ~~If one can break the programmed universe would it become transparent?~~ If we can turn the black box into a transparent one, we can actually break the program. Is it possible to have a transparent box instead of the black box? I am going to revisit this idea on the next part, transparency as a way of working against the program.

"...photographs also have to be decoded as an expression of the concealed interests of those in power: the interests of Kodak shareholders, of the proprietors of advertising agencies, those pulling the strings behind the us industrial complex, the interests of the entire us ideological, military and industrial complex. **If one exposed these interests, every single photograph and the whole photographic universe could be considered as having been decoded...**" (p72)

We would be released from the limits of the photographic universe and it can surpass its program and collapse if it was possible to display these intentions. Once again, the potential power of transparency should not be neglected.

"...the invention of photography will prove to be the point at which all cultural phenomena started to replace the linear structure of sliding with the staccato structure of programmed combinations; not, therefore, to adopt a mechanical structure such as that in the Industrial Revolution, but **to adopt a cybernetic structure such as that programmed into apparatuses.** Within such cultural criticism, the camera will prove to be the ancestor of all those apparatuses that are in the process of robotizing all aspects of our lives, from one's most public acts to one's innermost thoughts, feelings and desires..." (p71)

"A number of human beings are struggling against this automatic programming: photographers who attempt to produce informative images, i.e. photographs that are not part of the program of apparatus; critics who attempt to see what is going on in the automatic game of programming; and in general, all those who are attempting to create a space for human intention in a world dominated by apparatuses. However, the apparatuses themselves automatically assimilate these attempts at liberation and enrich their programs with them. It is consequently the task of a philosophy of photography to expose this struggle between human being and apparatuses in the field of photography and to reflect on a possible solution to the conflict." (p75)

It is not only the photographers' duty to be aware of this, but also the photo-critics. In his essay "Criteria-Crisis-Criticism" Flusser mentions two kinds of photo critics: the apparatus functionaries and the media functionaries. While the ones in the first category are slaves to apparatuses, the latter are the real critics, trying to expose the invisible intentions. It is similar to the difference between the creators of redundant images and the creators of informative images.

The post-industrial society, where most of the people work in in the tertiary sectors rather than the sectors of production and information, sets the environment for automatization and turns the apparatuses into black boxes. We are less and less aware of the contents of the black box, less and less aware of the cybernetic structures of the apparatus. To act against the program is not a solution, but a necessity, to revolt and to express individual freedom in a world of automatization is the only proper thing to do. The next step is to propose that the photographic universe can be a model for the post-industrial society, which turns this philosophy of photography into a starting point for something bigger.

2.4.5 Human Agency

In this part of the reader, I want to give place to Dawn Wilson's article "Facing the Camera: Self Portraits of Photographers as Artists" She skilfully takes at hand the struggle between automaticity and human agency in contemporary photographic arts. Starting from the painterly tradition of self-portraiture and its projection in the photographic arts, she covers works of artist such as Nan Goldin, Gavin Turk, Francesca Woodman and others.

"A deeper philosophical concern is that even if the photographer is responsible for determining these variables, still the image is not handmade by the artist, but rather merely "selected" from a matrix of possibilities that could be automatically generated by the mechanism." Wilson 2012, P61

Wilson is clearly aware of Flusser's understanding of the camera's program, and the grainy nature of the photographic universe.

"Given the diverse ways that artists have critically examined the relationship between automatism and agency, art is a mirror for the problems raised in philosophical inquiry." P61

Art is a mirror for the problems; photographic universe is a mirror to the postindustrial society. Working against camera's system is a way of revolting that ensures our freedom.

The aim should be transforming black boxes into transparent boxes. In the photographic universe, a way of doing this would be to create photographs that show the process of their making, such as having the presence of the camera in the image, or seeing the film negative's details such as the sprockets in the final image. When we look into a photograph it can be possible to see more than what was signified, revealing the medium, the process.

Next, the support of the image with an accompanying text that reveals the thought process and the intention of the artist would be a way to acquire the necessary synthesis, as text feeds the images and the images feed the text.

Dawn does not see automatism as a threat as in this article she is not interested in the information society and automatism's possible effects on it, but considers the idea of using automatism as another way of self-expression. In this way her approach is not (and does not have to be) as cynical as the one of Flusser.

"The automatism inherent in photography makes it possible to pose for self portraits in radically new ways, and, crucially, even if the apparatus is an entirely automatic mechanism, this does not inhibit the artist's agency to pose in a way that creatively defines the images as a self portrait. Instead, automatism is what makes it possible for an artist to have this distinctive form of creative self-awareness." P63

(maybe link to AI cant be artist.) (or not)

Self portrait at thirteen   Francesca Woodman

"the idea that by taking herself as her own subject, the artist is willing to subject herself to scrutiny. Instead, Woodman deliberately adopts a pose that disturbs these expectations: she presents the authorial control typical of a portrait artist and at the same time the uncooperative posture of a subject who is reluctant to be portrayed. She performs herself as a controlling artist and an uncontrollable subject." P64

2.5 Thinking Outside the Box

2.5.1 Hacking the Apparatus

"It goes without saying that photographers can discover new categories. But then they are straying beyond the act of photography into the metaprogram — of the photographic industry or of their own making— from which cameras are programmed [...] In the act of photography the camera does the will of the photographer but the photographer has to will what the camera can do." (p. 35)

2.5.2 Subverting the Program

"... one can outwit the camera's rigidity. Second, one can smuggle human intentions into its program that are not predicted by it. Third, one can force the camera to create the

unpredictable, the improbable, the informative. Fourth, one can show contempt for the camera and its creations and turn one's interest away from the thing in general in order to concentrate on information. In short: Freedom is the strategy of making chance and necessity subordinate to human intention. Freedom is playing against the camera." (p.80)

" ... so-called experimental photographers— those photographers in the sense of the word intended here. They are conscious that image, apparatus, program and information are the basic problems that they have to come to terms with. They are in fact consciously attempting to create unpredictable information, i.e. to release themselves from the camera, and to place within the image something that is not in its program. They know they are playing against the camera. Yet even they are not conscious of the consequence of their practice: They are not aware that they are attempting to address the question of freedom in the context of apparatus in general." (p.81)

> Note: The camera/the darkroom (the apparatuses) are programmed for a particular outcome. Abstract & experimental photography is an attempt to subvert the program of the apparatus. An attempt to create something new within the confines of the "program". Through experimental methods an artist aims to unpack the construction of the technical image in some sense. SM

"A philosophy of photography must reveal the fact that there is no place for human freedom within the area of automated, programmed and programming apparatuses, in order finally to show a way in which it is nevertheless possible to open up a space for freedom. The task of a philosophy of photography is to reflect upon this possibility of freedom - and thus its significance - in a world dominated by apparatuses; to reflect upon the way in which, despite everything, it is possible for human beings to give significance to their lives in face of the chance necessity of death.

Such a philosophy is necessary because it is the only form of revolution left open to us." (p.81)

> Jai McKenzie in *Light + Photomedia* discusses collage and photomontage as a disruptor to the program.SM

2.5.3 McKenzie on Flusser

"Vilém Flusser railed against the documentary style of photomedia believing that one that enjoys the structural complexities of the camera is doomed to be controlled by the apparatus. Those who are interested in continually shooting new scenes from the same well-worn perspective, such as those who take 'snaps' or practice documentary photography have not, according to Flusser, understood technical information. These photographers do not produce information or store moments of events as they intend. Instead, Flusser claims they 'prove the victory of the camera over the human being' [Page 59]. This, he claims, occurs when the documentary photographer produces images that are what the photographer would deem technically proficient and unique of the apparatus. Clearly, for Flusser this dichotomy between humans and machines is considered in terms of a power struggle in which the machine emerges victorious. However, Flusser forgets that the image machines of photomedia were in fact developed by human invention as part of a desire to control light. Through the capture of light, the images respond to and represent space and they change our understanding of light-space-time through the visual indication of space and time beyond our normal physical perception. The polarities of human and machine which Flusser critiques are better understood as an aspect of the human desire to contain and control light-space-time." (McKenzie, 2014, p.57)

Interesting to read a well-articulated argument that doesn't take Flusser's writings as gospel. It seems Flusser considers the photographers among us that take happy snaps and are interested in documentary photography (or realism in photography) to be those that fall victim to the apparatus' program, perpetuating more of the same technical images and challenging nothing.^{SM}

2.6 Information

From the terminology: "Information: an *improbable* combination of elements"; [To] Inform: 1. create an *improbable* combination of elements; 2. imprint them upon objects"

> What does Flusser mean with the improbability of the combination of elements that makes information? Since the text is not referencing directly, there is room for interpretation. Information theory tells us, that the amount of information ("entropy") is higher, the more improbable an

element's occurrence is (Shannon). It is extremely likely that Flusser is referring to entropy in his definition of information.

Flusser asks to replace 'work' with 'information' in cultural analysis, because the post-industrial society is a "pure information society" (p. 52). This is argued throughout the book on the basis of photography. Photographs, he states, are the first post-industrial objects, because of them, containing value differently, for the first time: In the information they convey rather than their materiality. Their relation to **ownership and value**, ways of **information-distribution** and the attached **distribution apparatus** can be applied to any future concept of the post-industrial society. This is why information is a universally necessary aspect when arguing towards a philosophy of photography that is capable to serve as a "starting point for any philosophy engaging with the current and future existence of human beings." (p.75) And this is why it is interesting for us to read Flusser's text and to form the basis of our thinking.

Informing objects

An object from the natural world is informed during its production, when it is brought from its natural habitat to the habitat of human beings. The information describes the extent to which the object is imprinted with a new, intentional form. Informed objects "acquire an unnatural, improbable form [and become] cultural." (p. 23)

> What is interesting here, is that an unnatural form makes something improbable and therefore gives it a higher entropy. The intentional form that is creating information is unnatural. Consequently, the intentional form is unnatural, making it improbable, meaning containing information.

The process of production is called "work", the object "a work". However, the camera, which is an apparatus, is not informing the photograph it is producing: An apparatus is intending to change the meaning of the world ("symbolic"), rather than changing the world directly, which is the case for tools in the traditional sense. (p. 25) So referring to photographers, as well as "writers, painters, composers, book-keepers [and] managers" (p.25) and the objects they produce, Flusser asks to rethink the "categories of cultural criticism" and replace the category "work" with "information". The objects produced by the mentioned, including "books, paintings, scores, balance-sheets [and] plans, are not informed, but rather carry information: "They were not an end, but a means." Also photographs carry information, they distribute information.

Information is received, stored, passed on and created by human beings. Flusser calls this "mind", specifically human, and further, that it is resulting in culture, "i.e. improbably formed, informed objects." (p. 49) "Communication" is, as Flusser states, the process of manipulation information. This manipulation consists of the creation of information ("dialogue") and its subsequent distribution to memories, where it is stored in ("discourse"). (p. 49) Four methods of distribution are named: First, a sender to multiple-audience, formed as in a theatre, second, a distribution through a series of relay stations from sender to receiver, third a distribution through a dialogue, which enriches the information before it is passed on, and fourth, a transmission "into space, as on the radio." Correspondences to "cultural situations" are clarified for each of the methods: First responsibility, second authority, third progress and fourth massification. "The distribution of photographs makes use of the fourth method", because cameras are purely programmed for the transmission of information, Flusser states, and therefore the other methods do not apply within the camera's programme, as valid for all image-creating apparatuses. (p. 50)

In practice, "gigantic complex apparatuses of photograph-distribution" (p. 53) reproduce and distribute photographs in various channels. These channels are structured, as Flusser describes the classification of information: "[I]nto indicative information of the type 'A is A', into imperative information of the type 'A must be A', and into optative information of the type 'A may be A'." For pure information these theoretical categories are influenced by each other. In case of photography they are more distinct. Nevertheless, it is possible for a photograph to switch-over from one category to another and take a new significance each time it does so.

The pure information society

The materiality of a photograph is mistakenly interpreted as what carries the photographs value. This is not true, Flusser argues, because photographs can be distributed by means of reproduction: From a camera negative as many copies as wanted can be produced, what makes the photograph as a thing practically without value: "Even though the last vestiges of materiality are attached to photographs, their value does not lie in the thing but in the information on their surface." (p. 51) This makes the photograph "the first of all post-

industrial objects", because "what characterizes the post-industrial [is that] [t]he information, and not the thing, is valuable." In contrast to industrial objects, where the information cannot be detached from the object that carries it, the information of post-industrial objects such as a photograph can be easily detached and transferred to another carrier. This results in a new concept of ownership over the power of the information: Not the one who owns the photograph is in power, but the one who created it, i.e. "[who] created the information it conveys." (p. 52) This concept works for any traditional photograph and reaches its climax with digital photographs, because they do not even become materialised on the surface of an object.

3. Can AI be creative?

In *Thinking: Apparatuses vs. Humans* [LiNK] we compared the thinking of the Apparatus with the thinking of its functionary – the Human. Flusser even pointed out that the Apparatus might be more successful, since they would be able to carry out the combinatory game with fewer errors. But can the Apparatus also carry out creative work?

36 years after Flusser published his idea of the Apparatus, Sean Dorrance Kelly is examining, whether AI would be able to be creative.

The author starts off with the hypothesis that Artificial intelligence can never surpass the creativity of humans, *'depending on the norms that we allow to govern our culture and our expectations of technology.'* According to Kelly it is up to us humans if we attribute creativity to machines. He separates creativity roughly in three fields: music, games and mathematics. In the case of music, he brings up the example of Kurzweil using a pattern recognition system to compose music in the style of Johann Sebastian Bach. However, the author states that this machine was just copying the style instead of coming up with an original piece of work. Kelly presumes that a computer needs to understand what music is in order to give an output of *'what is needed now'*. Even if machines reach the human-level of intelligence, or even if it reaches moral implications, it does not become a moral agent: *'If there is greatness in the product, it is only an accident. We may be able to see a machine's product as great, but if we know that the output is merely the result of some arbitrary act or algorithmic formalism, we cannot accept it as the expression of a vision for human good.'* Even with all the knowledge and perception a human has, a machine would never be able to be *'a genuinely creative artist',* because it is not able to judge the quality of music or understand what music is or is not. He much more sees artificial-intelligence as instruments, like a trumpet for a musician.

In regards of creativity in a game the author claims, that the system can succeed only because it learns to play well within the constraints of the game environment.

> I wonder why the author is bringing up this as an example after all if a game is -
>
> in his opinion - not a suitable descriptor for creativity. ^{AD}

In terms of mathematics it becomes more interesting. The writer makes two assumptions: if a machine is able to solve a complicated problem and experts can prove this solution to be right, the machine might be considered to be a creative mathematician. *'But such a machine*

would not be evidence of the singularity; it would not so outstrip us in creativity that we couldn't even understand what it was doing.' The second assumption is that the machine might be able to solve the problem, but the solution would be too complicated for humans to understand. According to the author this would not count as a proof. *'Proving something implies that you are proving it to someone.'* Here he connects his example to music again: either it is understandable for humans, meaning AI would not surpass us, or it is not understandable at all, what would not make it creative in the end.

In conclusion Sean Dorrance Kelly thinks that rather humanity is losing creativity instead of artificial intelligence getting hold of it. He warns us not to accept 'proofs' just because we cannot grasp them. If we cannot understand the underlying methods and reasons to the artificial creativity, it may not be considered as creativity at all. Only if we lose the idea of creativity in the human sense, we let machines become superior.

References (all works that we quote)

SAMPLE (FOR THE BOOK):

Surname, initials of author(s) (date) Title, place and name of publisher

EXAMPLE: Gilbert, S and Gubar, S (1988) No Man's Land New Haven, Yale University Press

When referring to an article in a journal, you should put the title of the article in quotation marks, and the journal title should be underlined:

Rollerton, F (1989) 'Wordsworth's Secret Dreams' in Citations Vol.12, No.4 (pp.113-124)

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